

Causal Effect of Caffeine on Heart Rate

using latin square design

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Abstract

After drinking coffee, one's heartbeat raises. This kind of change in metabolism might be responsible for caffeine. To confirm this, we conduct an experiment. Blocked by coffe-to-water ratio and drinking speed, we build 4×4 latin square design with caffeine intensity factor. For each cell, we measure heart rate using ECG app installed in Apple Watch (it gives average BPM).

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References

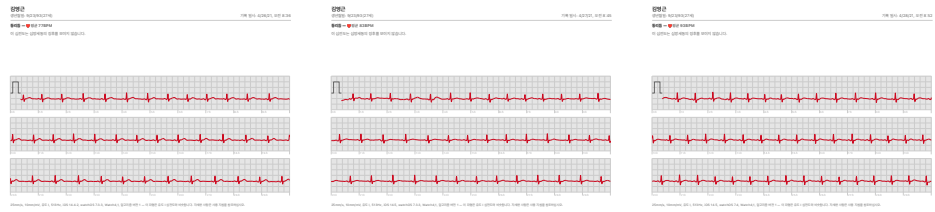
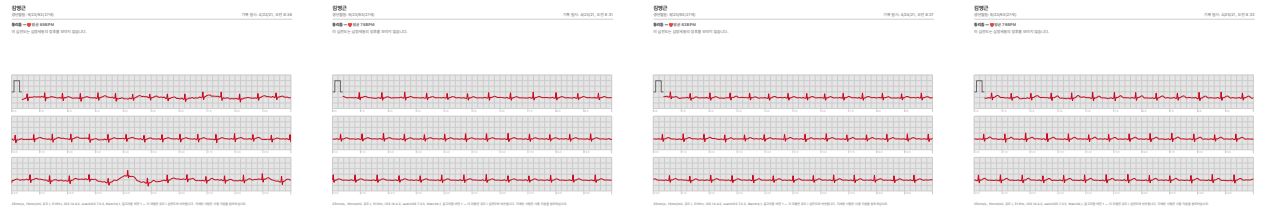
A Appendix

A.1 Codes

Package loading:

```
# tidyverse family-----  
library(tidyverse)  
# kable-----  
library(knitr)  
library(kableExtra)  
# set seed for report -----  
set.seed(1)
```

A.2 ECG Results



(e) (2,1),Water: 77 BPM

(f) (2,2),Sumatra: 83 BPM

(g) (2,3),Decaf: 93 BPM

Figure 1: ECG Results